

# best tests

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**Reminder: BNP, Haemochromatosis and Vitamin D**

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# Reminder:

## BNP, Haemochromatosis, Vitamin D: Testing in Primary Care

**BNP** "...the best role of BNP is to rule out heart failure when symptoms are equivocal..."

### Key recommendations:

- BNP is useful as a 'rule-out' test of heart failure in acute dyspnoea.
- The use of BNP in primary care is not yet established.

**Haemochromatosis** "...early detection of haemochromatosis can avoid development of significant liver pathology...."

### Key recommendations:

- Transferrin saturation and ferritin are the best initial tests.
- Population screening is not currently recommended.
- Gene testing of first degree adult relatives is recommended.
- People with haemochromatosis should be monitored with transferrin saturation and ferritin.

**Vitamin D** "...supplementation of vitamin D without testing levels is a cost effective option for elderly people in rest homes: One year's supplementation ~ \$12.00 vs Vitamin D blood test ~ \$50.00..."

### Key recommendations:

- Increased sun exposure is advisable for people at high risk of vitamin D insufficiency due to inadequate exposure.
- Vitamin D and calcium supplementation is appropriate for people at high risk who cannot increase their sun exposure.
- Testing of vitamin D levels is not usually necessary prior to or after starting vitamin D supplementation for elderly people.
- Vitamin D testing is appropriate for people in specific situations.

**For more information visit**

**[www.bpac.org.nz](http://www.bpac.org.nz)**

## Sun protection messages, vitamin D and skin cancer: out of the frying pan and into the fire?

The "vitamin D story", in which sun exposure is known to cause skin cancers while vitamin D is thought to provide protection against other cancers, is one example where health consumers will need the guidance of health professionals in making an informed decision.

The challenge, given current levels of evidence, is to provide a public health message that ensures skin cancer risk is minimised while taking a precautionary approach to the possible harms of insufficient circulating levels of vitamin D.

In the interim, the effect of current campaigns and media reports about vitamin D on sun-protective behaviours and sunburn rates should be monitored carefully, sun-safe practices should be encouraged and supplements used where necessary until we increase our basic understanding of the relationships between chronic disease, vitamin D and sunlight.

**Reference:** Janda M, Kimlin MG, Whiteman DC, et al. Sun protection messages, vitamin D and skin cancer: out of the frying pan and into the fire? *MJA* 2007; 186 (2): 52-53.

### **Key points when considering vitamin D deficiency and sun exposure are:**

- 'Slip, Slop, Slap, Wrap' continue to be important safe sun messages
- Sun screen will block vitamin D exposure
- Most people require only 5-10 minutes of sunlight, 2-3 times per week to produce sufficient vitamin D
- People with darker skin may require more exposure
- Older people may require more exposure
- For patients who can not increase sun exposure, supplementation should be considered.
- Recommended dose is a single tablet of cholecalciferol 1.25 mg (50 000 IU) monthly by mouth. This dose is effective and not associated with risk of toxicity.

A patient information leaflet on Vitamin D and sun exposure can be obtained by faxing the accompanying resource order form or from **[www.bpac.org.nz](http://www.bpac.org.nz)**

## Is liquid based cervical cytology better?

Conventional cervical cytology has been used for over 50 years, with very little change: a brush or spatula is used to remove cells from the endocervix which are smeared onto a glass slide. Recently, liquid based cytology (LBC) has become available. LBC differs from conventional methods in that the device used to collect cervical cells is rinsed or broken off into a vial of preservative liquid. A microscope slide is prepared by the laboratory. There has been increasing interest in the use of LBC methods as they have become FDA approved and have been adopted as the method of choice in a number of countries. In New Zealand two methods of LBC are available, ThinPrep and SurePath.

There has been conflicting reports on the performance of LBC over conventional cytology in many studies. A recent meta-analysis<sup>1</sup> of more than 1.25 million slides concluded there was no evidence that LBC performed better than conventional cytology. The authors noted that many of the studies of LBC were of poor quality and large randomised controlled trials are needed. In New Zealand, conventional cervical cytology remains the method of choice for cervical cytology although the National cervical screening programme has acknowledged the potential advantages of LBC. In their draft guideline<sup>2</sup> (final guideline due July 2007) they suggest that LBC may offer some advantages over conventional smears for women with:

- Excessive cervical mucus, discharge or blood
- Recurrent inflammatory smears
- Recurrent unsatisfactory smears

### References:

1. Davey E, Barratt A, Irwig L, et al. Effect of study design and quality on unsatisfactory rates, cytology classifications, and accuracy in liquid-based versus conventional cervical cytology: a systematic review. *Lancet* 2006;367:122-32.
2. National cervical screening programme. Proposed New Guidelines for the Management of Women with Abnormal Cervical Smears. October 2006. <http://snipurl.com/19w4c> (Accessed 19 January 2007)

## Resurgence of syphilis in NZ?

Syphilis had been considered a rarity in New Zealand, but over the last few years the ESR Annual Sexually Transmitted Infections Surveillance Report has shown increased rates of syphilis. It has been reported that the number of cases of syphilis presenting to the Auckland Sexual Health Service has quadrupled in the last five years. As recently as February this year, the website [www.gaynz.com](http://www.gaynz.com) warned readers of the '...outbreak of syphilis...'

***The trend is particularly worrisome because syphilis is known to markedly enhance HIV transmission rates.***

The main people at risk for acquiring syphilis appear to be either men who have had sex with men, or heterosexuals who have had casual sex while overseas.

### Symptoms

The symptoms of syphilis depend on the stage of the disease. Patients are infectious during the primary and secondary phases. A significant proportion of individuals may remain without symptoms.

*Primary syphilis* (usually lasts only a few weeks):

- chancres - painless sores on genitals, rectum, or mouth
- enlarged lymph nodes in the area adjacent to the chancre

*Secondary syphilis* (untreated may last 3 weeks to 9 months):

- general symptoms such as fever, fatigue, loss of appetite,
- skin rash
- extensive lymph node enlargement
- Other symptoms can also include sores in the mouth, nose, throat, genitals or in the folds of the skin, and alopecia

*Tertiary syphilis* (may manifest years after initial infection in about a third of untreated people

- Lesions on skin, bones, or liver
- The nervous system, heart and blood vessels may be affected

### Testing for syphilis

*Serological tests:* Requests for syphilis serology are commonly screened first with an enzyme immunoassay able to detect treponemal antibodies. Any reactive samples go on to have RPR (non-specific antibody) and TPHA or TPPA (specific treponemal antibodies). The RPR is usually raised with recent infection and falls after successful treatment. TPHA or TPPA usually remain lifelong, regardless of treatment.

### Reference

- Azariah S. Is syphilis resurgent in NZ in the 21st century? A case series of infectious syphilis presenting to the Auckland Sexual Health Service. *NZ Med J* 2005;118:1349.

## Choose either EMA or TTG for coeliac disease testing

Coeliac disease (gluten-sensitive enteropathy) is an autoimmune disease of the small intestine which makes people sensitive to dietary gluten. The gluten causes an inflammatory reaction on the lining of the small intestines that interferes with intestinal absorption. It has a prevalence of approximately 1%. The classic symptoms of coeliac disease are steatorrhoea and marked weight loss, but nowadays it is being recognised in people who may present with recurrent diarrhoea, or other vague and non-specific symptoms.

Anti-endomysial (EMA) antibody **or** anti-tissue transglutaminase (TTG) are the best initial tests for detecting coeliac disease, but small bowel biopsy remains the gold standard for diagnosis. If just one test is offered it will almost certainly be TTG because of the practicalities involved. EMA should however be retained for situations where there is good reason for clinical suspicion (such as deciding whether to proceed to biopsy), in patients who may be on-again/off-again with a gluten free diet (it is less likely to be falsely negative), and for situations where false positive TTGs are suspected.

Although testing for IgA antibodies to tissue transglutaminase or endomysial antibodies has shown excellent sensitivity and specificity for the diagnosis of coeliac disease, there are several provisos for interpreting results:

- **People having either EMA and TTG tests must have had adequate gluten (4 slices of bread daily) for six weeks prior to the test. Negative results do not exclude coeliac disease if the patient has a significantly reduced gluten intake.**
- **IgA deficiency is more common in patients with coeliac disease and the diagnosis may therefore be missed if IgA-based serological tests (EMA or TTG) are used. As a result there should be a lower threshold for performing duodenal biopsy in people with IgA deficiency.**

### Reference:

- Hill PG, McMillan SA. Anti-tissue transglutaminase antibodies and their role in the investigation of coeliac disease. *Ann Clin Biochem* 2006;43:105-117.

## Biochemical Monitoring of Lithium Therapy

Recently in 'Best Practice Journal' we provided an overview and guidance on the management of patients taking lithium. Reproduced below is an edited version of laboratory tests usually recommended for the routine monitoring of a patients on lithium. *For the full text visit [www.bpac.org.nz](http://www.bpac.org.nz)*

	Routine maintenance	Comments
<b>Lithium levels</b>	3-monthly	Monitor more frequently in high risk patients
<b>Thyroid function</b>	TSH 3 months after initiation and then 6-monthly	FT4 not routinely required Monitor for symptoms of hypothyroidism
<b>Electrolytes</b>	Check with lithium serum levels every 3 months	Particularly important to monitor sodium as it competes for reabsorption in proximal renal tubule
<b>Renal function</b>	Check at same time as lithium levels, at least every 3 months	Estimate renal function using the Cockcroft and Gault Equation* based on ideal body weight
<b>Serum calcium and magnesium</b>	Check every 2 years	Lithium may rarely cause hypercalcaemia and hypermagnesium
<b>Parathyroid hormone (PTH)</b>		Measure only if serum calcium is elevated

\*The  $\text{bpac}^{\text{nz}}$  creatinine clearance calculator is based on the Cockcroft-Gault equation

**Reference:**  $\text{bpac}^{\text{nz}}$ . Lithium in General Practice. *BPJ* 2007;3:16–27.